



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/732,725	12/11/2000	Takatoshi Kato	50395-076	2352
7590 09/09/2004				
McDERMOTT, WILL & EMERY 600 13th Street, N.W. Washington, DC 20005-3096			EXAMINER SONG, SARAH U	
			ART UNIT 2874	PAPER NUMBER

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,725

Applicant(s)

KATO ET AL.

Examiner

Sarah Song

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-6, 10-12, 14 and 15 is/are allowed.
6) ☐ Claim(s) 7-9 and 13 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 12/11/00 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 20, 2004 has been entered. Claims 1-3, 11 and 13 have been amended. Claims 1-15 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 13, 7/13, 8/7/13 and 9/7/13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhagavatula (U.S. Patent 4,715,679 previously cited).**

4. Regarding claim 13, Bhagavatula discloses a dispersion between about -25 ps/nm/km and -15 ps/nm/km in a wavelength range of 1350 nm to 1700 nm (see Figure 6, curve 66), but does not expressly disclose a fiber wherein said chromatic dispersion is between -20 ps/nm/km and -7.1 ps/nm/km for all wavelengths in the range of 1250 nm to 1650 nm. However, since Bhagavatula discloses a dispersion between about -25 ps/nm/km and -15 ps/nm/km in a wavelength range of 1350 nm to 1700 nm, which overlaps the claimed range, the claimed range would have been obvious to one of ordinary skill in the art. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists.

Art Unit: 2874

In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See also MPEP 2144.05.

5. Regarding claim 7/13, note central core region denoted by graph region 19a, second core region denoted by graph region 22, third core region denoted by graph region 19b, and a clad region denoted by graph region 20 (Figure 2).

6. Regarding claim 8/7/13, the clad region has an inner clad region 16 (corresponding graph region 20) having a refractive index smaller than said third refractive index region and an outer clad region (18, region immediately to the right of region 20 in Figure 2) having a refractive index greater than that of the inner clad region.

7. Regarding claim 9/7/13, Bhagavatula discloses a relative refractive index difference of the central core (Δ) to be 0.75% (see column 6, lines 27-29). Although the refractive index value is not within the claimed range, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05.

Allowable Subject Matter

8. Claims 1-6, 10-12, 14 and 15 are allowed.

9. Claims 7/1, 8/7/1, 9/7/1, 7/12, 8/7/12 and 9/7/12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not disclose or reasonably suggest, either alone or in combination, the

Art Unit: 2874

claimed fiber additionally having an effective area at a wavelength of 1550 nm of $40 \mu\text{m}^2$ or more as claimed in claim 14, a loss increase due to OH group of 0.1 dB/km or less as claimed in claim 15, or a bending loss of not more than 2.4 dB at the wavelength of 1550 nm when said fiber is wound 1 turn about a 32 mm diameter mandrel as claimed in claim 12. Both, Cohen et al. (previously relied upon) and Bhagavatula are silent with respect to these features, and the motivation to modify the prior art to arrive at the claimed invention is not disclosed or reasonably suggested.

11. Regarding claim 1, Bhagavatula does not disclose the claimed fiber having a cutoff wavelength less than 1300 nm and having a dispersion slope that is positive at, at least, one wavelength in the range of 1330 nm to 1600 nm. Bhagavatula does not disclose or suggest the cutoff wavelength of the fiber represented by curve 66 in Figure 6 to be less than 1300 nm and therefore, does not render obvious the claim. Claims 2-6, 10 and 11 would be allowable as depending from claim 1.

Response to Arguments

12. Applicant's arguments filed July 20, 2004 have been fully considered but they are not persuasive. Although applicants' amendments to the claims have overcome the rejection base upon the fiber represented by curve 56 of Bhagavatula, the fiber represented by curve 66 renders obvious the claims 13, 7/13, 8/7/13 and 9/7/13, as noted in the rejection above.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

Art Unit: 2874

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sarah Song
Patent Examiner
Group Art Unit 2874